

OBJECTIVES

To estimate healthcare resource utilization (HCRU) and direct costs of Chronic Myeloid Leukemia (CML) in the Brazilian public healthcare system.

- METHODS
- 1

Observational study using data from **the Ambulatory Information System** (SIA [*Sistema de Informações Ambulatoriais*]) and **Hospital Information System** (SIH [*Sistema de Informações Hospitalares*]).
- 2

Inclusion criteria: patients aged 18 or older with at least **one claim** of the International Classification of Diseases (ICD-10) code **C92.1**, from January 2013 to December 2023.
- 3

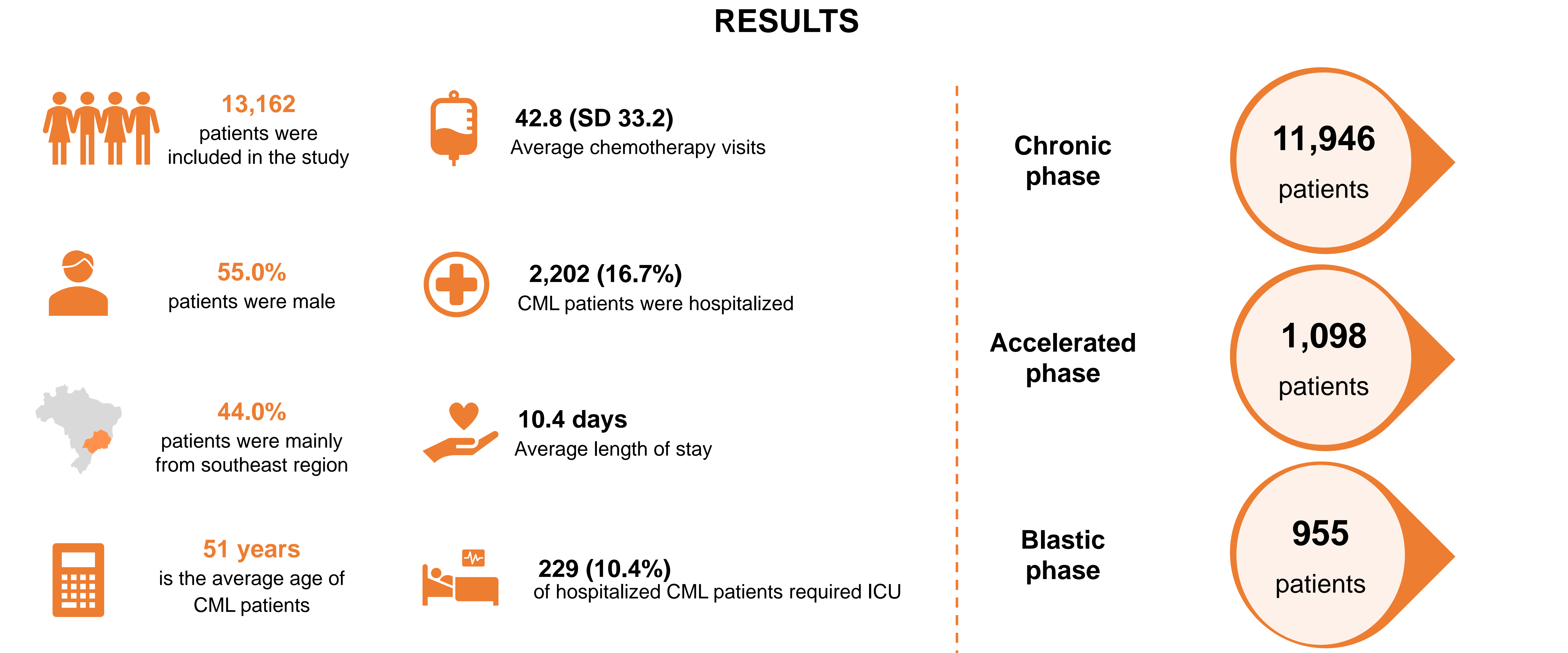
Patients were classified as **‘chronic’** based on chemotherapy procedure codes from the SUS Procedures, Medications, and OPM Table Management System (SIGTAP [*Sistema de Gerenciamento da Tabela de Procedimentos, Medicamentos e OPM do SUS*]).
- 4

Lines of therapy (LOT) were defined as the number of Tyrosine kinase inhibitors (TKIs) prescriptions.

- RESULTS
- The study involved 13,162 patients, predominantly male (55.0%), white (46.0%), with an average age of 51 years (IQR: 39-63) and follow-up time of 4.0 years, mainly from Southeast Brazil (44.0%). Among them, 11,946 (90.8%) were in the chronic phase.
 - On average, CML patients had 42.8 (SD: 33.2) chemotherapy visits. Hospitalization occurred in 2,202 patients (16.7%) with an average stay of 10.4 days, and 229 (10.4%) required Intensive Care Unit (ICU). In the chronic cohort, patients averaged 31.9 (SD: 30.6) chemotherapy visits in LOT1 and 16.6 (SD: 18.6) in LOT3.
 - The highest hospitalization rates were in LOT3 (12.6%) and LOT4 (12.4%), with the longest stay in LOT4 (14.3 days). ICU use was higher in LOT3 (18.5%) and LOT5+ (16.7%).
 - The total treatment costs for CML patients in SUS were USD 26,41M for outpatient visits and USD 8,92M for hospitalizations.
 - Outpatient visit average costs per patient ranged from USD 907.85 in LOT1 to USD 2,780.61 in LOT3, while hospitalization costs ranged from USD 2,046.80 in LOT1 to USD 10,709.18 in LOT4 in the chronic phase.

CONCLUSIONS

The study provides an overview of HCRU and direct costs in treating CML within the Brazilian public healthcare system. Advanced LOTs for CML treatment are associated with significantly higher costs and resource demands, particularly due to increased hospitalizations and ICU admissions.



| CHRONIC PHASE | | | | | |
|-------------------|---|---|---|---|---|
| OUTPATIENT VISITS | LOT 1 | LOT 2 | LOT 3 | LOT 4 | LOT 5+ |
| | <div>31.9 (SD 30.6)</div> <div>average of chemotherapy visits</div> <div>USD 907.85</div> <div>average cost per patient</div> | <div>26.8 (SD 24.7)</div> <div>average of chemotherapy visits</div> <div>USD 1,668.55</div> <div>average cost per patient</div> | <div>16.6 (SD 18.5)</div> <div>average of chemotherapy visits</div> <div>USD 2,780.61</div> <div>average cost per patient</div> | <div>19.8 (SD 20.1)</div> <div>average of chemotherapy visits</div> <div>USD 2,718.72</div> <div>average cost per patient</div> | <div>23.4 (SD 17.9)</div> <div>average of chemotherapy visits</div> <div>USD 2,744.53</div> <div>average cost per patient</div> |
| HOSPITALIZATIONS | <div>9.0%</div> <div>hospitalization rate</div> | <div>9.7%</div> <div>hospitalization rate</div> | <div>12.6%</div> <div>hospitalization rate</div> | <div>12.4%</div> <div>hospitalization rate</div> | <div>5.3%</div> <div>hospitalization rate</div> |
| | <div>9.4 (SD 8.7) days</div> <div>average length of stay in the hospital</div> | <div>11.1 (SD 11.1) days</div> <div>average length of stay in the hospital</div> | <div>11.8 (SD 9.9) days</div> <div>average length of stay in the hospital</div> | <div>14.3 (SD 12.1) days</div> <div>average length of stay in the hospital</div> | <div>9.7 (SD 6.8) days</div> <div>average length of stay in the hospital</div> |
| | <div>9.9%</div> <div>ICU use</div> | <div>11.7%</div> <div>ICU use</div> | <div>18.5%</div> <div>ICU use</div> | <div>10.9%</div> <div>ICU use</div> | <div>16.7%</div> <div>ICU use</div> |
| | <div>USD 2,046.80</div> <div>average cost per patient</div> | <div>USD 6,526.54</div> <div>average cost per patient</div> | <div>USD 10,679.25</div> <div>average cost per patient</div> | <div>USD 10,709.18</div> <div>average cost per patient</div> | <div>USD 7,104.34</div> <div>average cost per patient</div> |

Abbreviations: SD: Standard Deviation; USD: United States Dollar.